

# EUROPEAN PATENT OFFICE

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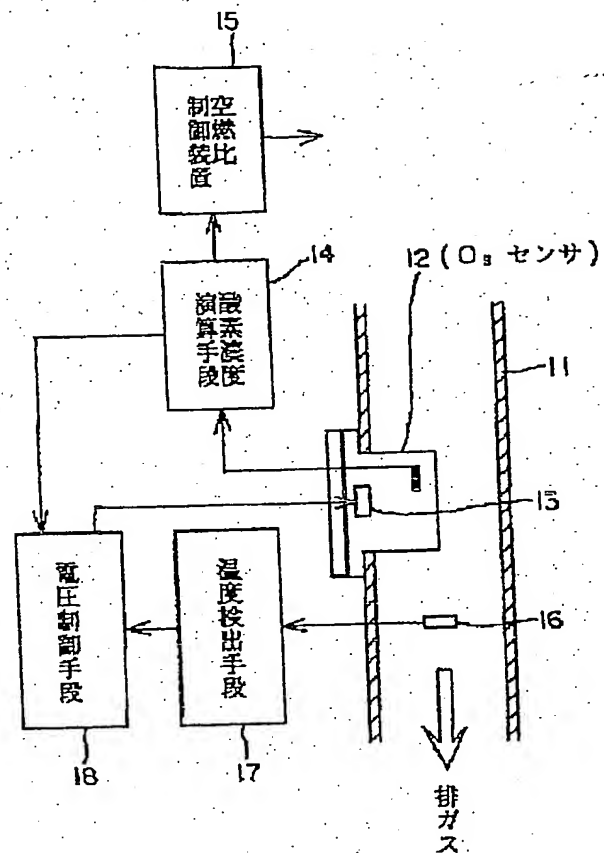
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TITLE : AIR/FUEL RATIO CONTROLLER FOR  
EXTERNAL COMBUSTION ENGINE



ABSTRACT : PURPOSE: To accurately measure the amt. of residual oxygen by directly detecting the temp. of the exhaust gas of an oxygen concn. sensor and controlling applied voltage on the basis of the detected temp.

CONSTITUTION: An oxygen concn. sensor 12 is arranged to the exhaust system 11 of an external combustion engine. A heater 13 is incorporated in this sensor 12 and kept to a temp. of 650-750°C bringing the element of the sensor 12 to an active state. The sensor 12 is connected to an oxygen concn. operation means 14 and an air/fuel ratio controller 15 to control an air/fuel ratio corresponding to the oxygen concn. signal from the sensor 12. A thermocouple 16 is arranged in the vicinity of the sensor 12 and the temp. signal of exhaust gas is sent to a temp. detection means 17 and a voltage control means 18. The voltage control means 18 applies voltage to the heater 13 on the basis of the detected temp. of exhaust gas and the voltage corresponding to the concn. of residual oxygen from an oxygen concn. operation means 14 is applied to the heater 13. By this constitution, the voltage necessary for setting temp. most desirable to the sensor is supplied to the heater 13.

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